

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

ALNYLAM PHARMACEUTICALS,
INC.

Plaintiff,

v.

MODERNA, INC., MODERNATX,
INC., and MODERNA US, INC.,

Defendants.

Civil Action No. 22-cv-335-CFC
(CONSOLIDATED)

[PROPOSED] JOINT CLAIM CONSTRUCTION CHART

Pursuant to Paragraph 15 of the Scheduling Order (D.I. 31), Plaintiff Alnylam Pharmaceuticals, Inc. (“Alnylam”) and Defendants Moderna, Inc., ModernaTX Inc., and Moderna US, Inc. (“Moderna”) hereby submit this Joint Claim Construction. A copy of U.S. Patent No. 11,246,933 (the “’933 Patent”) has been attached as Exhibit A, and a copy of the U.S. Patent No. 11,382,979 (the “’979 Patent”) has been attached as Exhibit B.¹

¹ Pursuant to Paragraph 8 of the Scheduling Order (D.I. 31), Alnylam has moved to amend the complaint to assert infringement of U.S. Patent No. 11,590,229 (the “’229 Patent”). *See* D.I. 54, 55. Moderna opposes Alnylam’s motion. *See* D.I. 58. As of this filing, no party has identified additional terms for construction from the ’229 Patent.

Dated: March 1, 2023

Respectfully submitted,

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Joint Claim Construction Chart for U.S. Patent Nos. 11,246,933 and 11,382,979

Claim Term and Applicable Claims	Alnylam's Proposed Construction and Intrinsic Evidence	Moderna's Proposed Construction² and Intrinsic Evidence^{3,5}
"directly bonded" '933 Patent claim 18 '979 Patent claims 1, 18	The parties agree the construction is: Covalently bonded without any intervening atoms.	
"cationic lipid" '933 Patent claims 18, 20-27 '979 Patent claims 1, 3, 9, 10, 18, 25, 26	<p align="center">Proposed Construction</p> <p>Plain and ordinary meaning, which is "a lipid which may be protonated at physiological pH"</p> <p align="center">Intrinsic Evidence⁴</p> <p><i>See e.g.,</i></p>	<p align="center">Proposed Construction</p> <p>Lipid having one or two fatty acid or fatty aliphatic chains and an amino acid containing head group that is positively-charged or may be protonated at physiological pH; also referred to as an amino acid conjugate cationic lipid.</p>

² Moderna's proposed constructions herein are without prejudice to arguing at an appropriate stage of the case that the construed or any other terms are indefinite. Moderna reserves the right to argue the indefiniteness of any term listed here, any claim term previously disclosed, or any other claim term, at the appropriate stage of the case per the Court's usual practice.

³ Moderna reserves the right to rely on any intrinsic evidence disclosed by Alnylam in this matter, or by either party in the Joint Claim Construction Chart in the co-pending *Alnylam Pharms. Inc. v. Pfizer Inc.*, 22-336.

⁴ Alnylam reserves the rights to rely on any intrinsic evidence cited by Moderna in this matter, or any intrinsic evidence cited by either party in the Joint Claim Construction Chart in the co-pending *Alnylam Pharmaceuticals Inc. v. Pfizer Inc.*, Civil Action No. 1:22-cv-00336-CFC (D.Del.).

	<p>'933 Patent⁵: Abstract, 1:17-19 1:42-46, 1:47-48, 1:61-2:20, 3:63-4:10, 5:51-65, 6:49-9:20, 10:30-45, 11:4-15, 11:64-12:7, 12:55-65, 14:4-15, 15:31-54, 16:1-14, 18:43-19:12, 19:13-19, 19:20-21:60, 21:61-25:56, 28:38-29:32, 29:33-53, 29:54-61, 29:65-30:11, 31:1-10, 32:16-64, 33:11-20, 34:14-30, 36:34-37:24, 58:40-52, 58:66-59:18, 60:36-61:21, 76:18-23. 76:24-333:61, 334:62-67, 335:1-342:33, 341:34-37, 341:38-351:64, 351:65-352:67, 353:1-354:60, 355:1-2, 355:3-395:24, 395:48-52, 395:52-398:10, 405:33-67, 406:33-410:53, 410:57-62, 411:27-34, 501:22-27, 519:62-521:11, 521:13-529:31, 529:32-534:27, Table 1A, Table 1B, Table 1C, Table 2A, Table 2C, Table 2D, Table 2E</p> <p>'933 Patent Claims: 1-28</p>	<p>This is a limiting claim element.</p> <p>Intrinsic Evidence</p> <p>'933 Patent at 1:61-28:37, 30:7-37:20, 37:21-396:53, 397:36-398:11, 410:57-62; claims 1, 18; Abstract; 1:42-48; 29:65-33:10; 34:16-398:10; 410:31-63; 411:27-534:27; 535:38-539:11.</p> <p>'979 Patent at Abstract; 1:44-50; 1:63-25:57; 30:10-33:12; 34:32-366:20; 378:49-379:13; 379:45-492:67; 493:40-496:54.</p> <p>'933 Patent File History at 4/29/2021 As-filed Application, Claims, and Preliminary Amendment; 8/10/2021 Amendments to the Claims at claims and Remarks Made in Amendment; 9/07/21 Office Action; 10/13/21 Terminal Disclaimer; 10/14/2021</p>
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⁵ The specification for the '933 Patent and '979 Patent are substantially identical. Therefore, all citations to the specification are to the '933 Patent specification, except where otherwise specified. The parties reserve the right to rely on citations to the '979 specification, including those specifically disclosed, to the extent there is any difference to the corresponding '933 specification citation.

	<p>'979 Patent Claims: 1, 3, 9, 10, 18, 25, 26</p> <p>U.S. Patent App. No. 17/302,311⁶ Prosecution History, including but not limited to July 01, 2021, Restriction Requirement; August 02, 2021 Response to Restriction Requirement; August 02, 2021 Amendments to the Claims and Application Remarks; September 07, 2021 Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No 17/644,907⁷ Prosecution History, including but not limited to March 04, 2022 Non-Final Rejection; April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p>	<p>Amendments to the Claims and Remarks Made in Amendment; 10/29/21 Notice of Allowance; 11/16/2021 Amendments to the Claims and Remarks Made in Amendment; 12/1/21 Corrected Notice of Allowance.</p> <p>Related Application No. 17/651,017 at claims 20, 22 (as of 10/20/2022).</p> <p>Related Application No. 17/651,023 at claims 20, 39, 55, 61 (as of 11/30/2022).</p> <p>Related Application No. 17/651,029 at claims 20, 35, 49, 55 (as of 11/30/2022).</p> <p>'979 Patent:</p> <p>12/17/21 As-filed Application & Preliminary Amendment 3/4/22 Office Action 3/7/22 Office Action Response & Terminal Disclaimer 3/23/22 Notice of Allowance</p>
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⁶ U.S. Patent App. No. 17/302,311 issued as U.S. Patent No. 11,246,933.

⁷ U.S. Patent App. No. 17/644,907 issued as U.S. Patent No. 11,382,979.

		<p>4/18/22 Amendment After Allowance</p> <p>U.S. Patent No. 11,071,784:</p> <p>07/23/19 As-filed Application & Preliminary Amendment</p> <p>06/02/20 Office Action</p> <p>10/29/20 Office Action Response</p> <p>12/03/20 Office Action</p> <p>03/03/21 Office Action Response</p> <p>03/22/21 Notice of Allowance</p> <p>U.S. Patent No. 10,369,226:</p> <p>4/2/15 As-filed Application</p> <p>6/17/15 Preliminary Amendment</p> <p>12/17/15 Office Action</p> <p>5/17/16 Office Action Response</p> <p>6/22/16 Office Action</p> <p>9/21/16 Office Action Response</p> <p>11/3/16 Office Action</p> <p>2/2/17 Terminal Disclaimer & Request for Continued Examination</p> <p>5/30/17 Office Action</p> <p>10/30/17 Office Action Response</p> <p>12/12/17 Office Action</p> <p>4/12/18 Request for Continued Examination</p>
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		<p>U.S. Patent No. 8,466,122 U.S. Patent No. 8,569,256 U.S. Patent No. 9,139,554 US Publication No. 2003/0229037 US Publication No. 2004/0142474 US Publication No. 2011/0256175 US Publication No. 2016/0009637</p> <p>Chesnoy & Huang (2000), Structure and Function of Lipid-DNA Complexes for Gene Delivery</p> <p>Jayaraman et al. (including Ansell, Du, Madden, Cullis, Hope, and some Alnylam inventors) (2012), Maximizing the Potency of siRNA Lipid Nanoparticles for Hepatic Gene Silencing In Vivo</p> <p>Tang & Hughes (1999), Synthesis of a single-tailed cationic lipid and investigation of its transfection</p> <p>Semple et al. (2010), Rational design of cationic lipids for siRNA delivery</p>
<p>“primary group”</p> <p>’933 Patent claim 18</p>	Proposed Construction	Proposed Construction

	<p>Plain and ordinary meaning, which is “the head group and central moiety”</p> <p style="text-align: center;">Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent: 16:1-18:43, 25:57-28:37, 28:38-29:32, 29:33-53, 29:54-61, 42:48-44:20, 76:24-333:61, 405:33-67, 406:33-410:53, 533:24-534:27; Table 1A, Table 1B, Table 2A</p> <p>’933 Patent Claims: 1, 5, 18</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16,</p>	<p>Portion of certain cationic lipids that is made up of a head group and a central moiety and excludes any fatty acid or fatty aliphatic chains.</p> <p style="text-align: center;">Intrinsic Evidence</p> <p>’933 Patent at 16:1-18:41, 42:48-44:20; claims 1, 18.</p> <p>’933 Patent File History at 4/29/2021 Claims; 8/10/2021 Amendments to the Claims at claims and Remarks Made in Amendment; 10/14/2021 Amendments to the Claims and Remarks Made in Amendment; 11/16/2021 Amendments to the Claims and Remarks Made in Amendment.</p>
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	2021 Amendment After Allowance and Remarks	
<p>“head group”</p> <p>’933 Patent claim 18</p> <p>’979 Patent claims 1, 18</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is “a portion of the lipid molecule that is less hydrophobic than the hydrophobic tails”</p> <p>Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent: 3:38-44, 5:44-50, 6:42-48, 9:31-38, 11:57-63, 13:34-14:3, 15:24-30, 15:31-44, 16:53-55, 23:47-54, 28:38-29:32, 29:33-53, 29:54-61, 35:26-33, 27:51-54, 28:20-23, 37:25-26, 42:48-51, 76:24-333:61, 396:32-44, 398:12-13, 405:33-67, 406:33-410:53, 421:40-44, 533:24-534:27, Table 1A, Table 1B, Table 2A</p> <p>’933 Claims: 1, 13, 18</p> <p>’979 Claims: 1, 18</p> <p>’229 Claims: 20, 27, 28</p>	<p>Proposed Construction</p> <p>Portion of the cationic lipid that contains a positively-charged or protonatable group at physiological pH, and that is not the central moiety, and that is not a fatty acid chain nor a fatty aliphatic chain.</p> <p>Intrinsic Evidence</p> <p>’933 Patent at 1:61-28:37, 30:7-37:20, 37:21-44:20, 58:40-52; 60:36-67:20, 76:18-396:53, 397:36-398:11, 410:57-62; claims 1, 18; 57:20-34; 58:40-70:54; 397:36-405:50; 410:55-413:29; 414:28-534:27; 535:38-539:11.</p> <p>’979 Patent at 2:9-19:11; 20:18-23:58; 25:20-41; 25:58-28:48; 30:19-33:12; 34:32-44:27; 57:38-51; 58:42-70:41; 76:12-365:9; 365:55-373:59; 379:6-382:4; 382:34-492:67; 493:41-496:53.</p>

	<p>U.S. Patent App. No. 17/302,311 Prosecution History, including but not limited to August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No. 17/644,907 Prosecution History, including but not limited to April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p>	<p>'933 Patent File History at 4/29/2021 As-filed Application, Claims, and Preliminary Amendment; 8/10/2021 Amendments to the Claims and Remarks Made in Amendment; 09/07/21 Office Action; 10/13/21 Terminal Disclaimer; 10/14/2021 Amendments to the Claims and Remarks Made in Amendment; 10/29/21 Notice of Allowance; 11/16/2021 Amendments to the Claims and Remarks Made in Amendment; 12/1/21 Corrected Notice of Allowance.</p> <p>'979 Patent:</p> <p>12/17/21 As-filed Application & Preliminary Amendment 3/4/22 Office Action 3/7/22 Office Action Response & Terminal Disclaimer 3/23/22 Notice of Allowance 4/18/22 Amendment After Allowance</p>
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		<p>U.S. Patent No. 11,071,784:</p> <p>07/23/19 As-filed Application & Preliminary Amendment</p> <p>06/02/20 Office Action</p> <p>10/29/20 Office Action Response</p> <p>12/03/20 Office Action</p> <p>03/03/21 Office Action Response</p> <p>03/22/21 Notice of Allowance</p> <p>U.S. Patent No. 10,369,226:</p> <p>4/2/15 As-filed Application</p> <p>6/17/15 Preliminary Amendment</p> <p>12/17/15 Office Action</p> <p>5/17/16 Office Action Response</p> <p>6/22/16 Office Action</p> <p>9/21/16 Office Action Response</p> <p>11/3/16 Office Action</p> <p>2/2/17 Terminal Disclaimer & Request for Continued Examination</p> <p>5/30/17 Office Action</p> <p>10/30/17 Office Action Response</p> <p>12/12/17 Office Action</p> <p>4/12/18 Request for Continued Examination</p> <p>8/15/18 Office Action</p> <p>1/8/19 Office Action Response</p> <p>2/14/19 Notice of Allowance</p>
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		<p>5/14/19 Substitute Specification 5/23/19 Interview Summary 6/3/19 Substitute Specification 6/20/19 Substitute Specification 6/28/19 Response to Amendment after Allowance</p> <p>U.S. Patent No. 9,061,063:</p> <p>12/07/12 As-filed Application 4/11/13 Preliminary Amendment 4/03/14 Office Action 6/03/14 Office Action Response 7/18/14 Office Action 10/16/14 Office Action Response 12/15/14 Office Action Response 1/2/15 Office Action Response 1/2/15 Notice of Allowance 2/4/15 Amendment after Allowance 2/24/15 Amendment after Allowance</p> <p>Patent & Non-Patent Literature Cited on the Face of the '933 Patent and/or '979 Patent:</p> <p>U.S. Patent No. 8,466,122 U.S. Patent No. 8,569,256 U.S. Patent No. 9,139,554</p>
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		<p>US Publication No. 2003/0229037 US Publication No. 2004/0142474 US Publication No. 2011/0256175 US Publication No. 2016/0009637</p> <p>Chesnoy & Huang (2000), Structure and Function of Lipid-DNA Complexes for Gene Delivery</p> <p>Jayaraman et al. (including Ansell, Du, Madden, Cullis, Hope, and some Alnylam inventors) (2012), Maximizing the Potency of siRNA Lipid Nanoparticles for Hepatic Gene Silencing In Vivo</p> <p>Tang & Hughes (1999), Synthesis of a single-tailed cationic lipid and investigation of its transfection</p> <p>Semple et al. (2010), Rational design of cationic lipids for siRNA delivery</p>
<p>“optionally comprises a primary, secondary, or tertiary amine”</p> <p>’933 Patent claim 18</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is “may or may not contain an amine,</p>	<p>Proposed Construction</p> <p>Comprises one of three options: a primary, a secondary, or a tertiary amine.</p>

	<p>where the amine may be primary, secondary, or tertiary”</p> <p style="text-align: center;">Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent: 3:38-44, 5:44-50, 6:42-48, 9:31-38, 11:57-63, 13:34-14:3, 15:24-30, 15:31-44, 16:53-55, 23:47-54, 35:26-33, 27:51-54, 28:20-23, 32:45-64, 37:25-26, 37:32-42:47, 42:48-51, 396:32-44, 398:12-13, 421:40-44, 76:24-333:61, 533:24-534:27, Table 1A, Table 1B, Table 2A</p> <p>’933 Patent Claims: 18 ’229 Claims: 20, 27, 28</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October</p>	<p style="text-align: center;">Intrinsic Evidence</p> <p>’933 Patent at 395:47-398:11, 32:45-64; claim 18.</p> <p>’933 Patent File History at 8/10/2021 Amendments to the Claims and Remarks Made in Amendment.</p>
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	14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks	
<p>“central moiety”</p> <p>’933 Patent claims 2, 18, 22, 24, 25 ’979 Patent claims 1, 13, 14, 18, 28</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is “central nitrogen or carbon atom that is directly bonded to the head group and the hydrophobic tails”</p> <p>Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent: 16:53-60, 26:43-51, 28:20-24, 32:45-47, 32:65-33:10, 36:53-24, 76:24-333:61, 533:24-534:27, Table 1B,</p> <p>’933 Patent Claims: 1, 2, 18, 22, 24, 25 ’979 Patent Claims: 1, 2, 13, 14, 17, 18, 28 ’229 Patent Claims: 20, 34</p>	<p>Proposed Construction</p> <p>Portion of certain cationic lipids located between the head group and any fatty acid or fatty aliphatic chain.</p> <p>Intrinsic Evidence</p> <p>’933 Patent at 16:53-18:41, 23:47-55, 32:65-33:11, 36:53-38:19, 42:48-44:20, 60:55-62:21, 67:23-70:50; claims 1, 18.</p> <p>’933 Patent File History at 4/29/2021 Claims; 8/10/2021 Amendments to the Claims at claims and Remarks Made in Amendment; 10/14/2021 Amendments to the Claims and Remarks Made in Amendment; 11/16/2021 Amendments to the Claims and Remarks Made in Amendment.</p>

	<p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No. 17/644,907 Prosecution History including but not limited to April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p>	
<p>“branched alkyl”/ “branched C₁₀-C₂₀ alkyl”</p> <p>’933 Patent claim 18</p> <p>’979 Patent claims 1, 18</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is:</p> <p>Branched alkyl – “a saturated hydrocarbon moiety that is not a straight chain”</p>	<p>Proposed Construction</p> <p>Alkyl in which one carbon atom in the group (1) is bound to at least three other carbon atoms, and (2) is not a ring atom of a cyclic group.</p> <p>Intrinsic Evidence</p>

	<p>Branched C₁₀-C₂₀ alkyl – “a saturated hydrocarbon moiety that has 10 to 20 carbons and is not a straight chain”</p> <p style="text-align: center;">Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent at 2:7-20, 76:24-333:61, 411:53-61, 411:62-412:5, 412:6-12, 412:12-20, 533:24-534:27; Table 1C, Table 2C, Table 2D, Table 2E</p> <p>’933 Claims: 1, 7, 13, 14, 15, 18, 28 ’979 Claims: 1, 15, 18</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16,</p>	<p>’933 Patent at 1:61-28:37, 34:32-60, 36:53-38:19, 44:2-62:21, 73:56-396:53, 411:53-54, 412:14-18; claims 13, 18; 34:31-37:24; 398:57-405:32; 410:55-413:29; 414:28-534:27; 535:38-539:11.</p> <p>’979 Patent at 2:9-16:61; 18:50-25:19; 25:57-26:32; 27:61-28:30; 34:46-37:34; 44:29-61:21; 73:40-363:37; 367:1-373:40; 379:6-382:4; 382:34-492:67; 493:41-496:53.</p> <p>’933 Patent File History at 4/29/2021 As-filed Application, Claims, and Preliminary Amendment; 8/10/2021 Amendments to the Claims and Remarks Made in Amendment; 9/07/21 Office Action; 10/13/21 Terminal Disclaimer; 10/14/2021 Amendments to the Claims and Remarks Made in Amendment; 10/29/21 Notice of Allowance; 11/16/21 Amendment After Allowance; 12/1/21 Corrected Notice of Allowance .</p>
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	<p>2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No. 17/644,907 Prosecution History including but not limited to April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p>	<p>Related Application No. 17/651,017 at claims 20, 33, 51 (as of 10/20/2022).</p> <p>'979 Patent:</p> <p>12/17/21 As-filed Application & Preliminary Amendment 3/4/22 Office Action 3/7/22 Office Action Response & Terminal Disclaimer 3/23/22 Notice of Allowance 4/18/22 Amendment After Allowance</p> <p>U.S. Patent No. 11,071,784:</p> <p>07/23/19 As-filed Application & Preliminary Amendment 06/02/20 Office Action 10/29/20 Office Action Response 12/03/20 Office Action 03/03/21 Office Action Response 03/22/21 Notice of Allowance</p> <p>U.S. Patent No. 10,369,226:</p> <p>4/2/15 As-filed Application 6/17/15 Preliminary Amendment</p>
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		<p> 12/17/15 Office Action 5/17/16 Office Action Response 6/22/16 Office Action 9/21/16 Office Action Response 11/3/16 Office Action 2/2/17 Terminal Disclaimer & Request for Continued Examination 5/30/17 Office Action 10/30/17 Office Action Response 12/12/17 Office Action 4/12/18 Request for Continued Examination 8/15/18 Office Action 1/8/19 Office Action Response 2/14/19 Notice of Allowance 5/14/19 Substitute Specification 5/23/19 Interview Summary 6/3/19 Substitute Specification 6/20/19 Substitute Specification 6/28/19 Response to Amendment after Allowance U.S. Patent No. 9,061,063: 12/07/12 As-filed Application 4/11/13 Preliminary Amendment 4/03/14 Office Action 6/03/14 Office Action Response 7/18/14 Office Action </p>
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		10/16/14 Office Action Response 12/15/14 Office Action Response 1/2/15 Office Action Response 1/2/15 Notice of Allowance 2/4/15 Amendment after Allowance 2/24/15 Amendment after Allowance
“where the branching occurs at the α -position relative to the [biodegradable/ester] group” ’933 Patent claim 18 ’979 Patent claims 1, 18	<p style="text-align: center;">Proposed Construction</p> <p>Plain and ordinary meaning, which is “where the branching occurs at a carbon atom next to the [biodegradable/ester] group”</p> <p style="text-align: center;">Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>’933 Patent at: 2:7-10, 3:63-67, 24:52-57, 35:3-38:20 73:57-76:15, 76:24-333:61, 533:24-534:27, Table 1C, Table 2C, Table 2D, Table 2E</p> <p>’933 Claims: 1, 7, 18, 28 ’979 Claims: 15, 18</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but</p>	<p style="text-align: center;">Proposed Construction</p> <p>Where the attachment to the [biodegradable/ester] group occurs through a secondary or tertiary carbon atom and not through a terminal carbon atom.</p> <p style="text-align: center;">Intrinsic Evidence</p> <p>’933 Patent at 1:61-28:37, 34:32-60, 36:53-38:19, 44:25-62:21, 73:59-396:53, 411:53-54, 412:14–18; claims 13, 18.</p> <p>’933 Patent File History at 4/29/2021 Claims; 8/10/2021 Amendments to the Claims and Remarks Made in Amendment; 10/14/2021 Amendments to the Claims and Remarks Made in Amendment.</p>

	<p>not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7, 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No. 17/644,907 Prosecution History including but not limited to April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p>	<p>Related Application No. 17/651,017 at claims 20, 33, 51 (as of 10/20/2022).</p>
<p>“a nucleic acid”</p> <p>’979 Patent claims 1, 11, 18, 27</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is “a molecule composed of nucleotides, including modified nucleotides”</p> <p>Intrinsic Evidence</p> <p><i>See e.g.,</i></p>	<p>Proposed Construction</p> <p>A nucleic acid consisting of small interfering RNA (siRNA), micro RNA or microRNA (miRNA), antisense oligonucleotide, ribozyme, plasmid, immune stimulating nucleic acid, antisense, antagomir, antimir, microRNA mimic, supermir, U1 adaptor, aptamer, DNA, ribosomal RNA (rRNA), transfer RNA</p>

	<p>'933 Patent at 1:17-19, 1:23-36, 1:37-46, 1:47-57, 1:61-62, 1:66-2:2, 25:10-15, 28:57-63, 28:64-29:5, 29:11-13, 29:14-16, 29:17-24, 29:25-32, 29:33-43, 29:54-61, 36:39-44, 76:21-23, 334:63-67, 406:43-62, 407:44-47, 408:1-9, 409:7-10, 409:33-410:4, 410:27-53, 520:27-53, 533:24-534:27</p> <p>'933 Claims: 16 '979 Claims: 1, 11, 18, 27 '229 Claims: 20, 21, 35</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p>	<p>(tRNA), and/or small nuclear RNA (snRNA), and excluding mRNA.</p> <p style="text-align: center;">Intrinsic Evidence</p> <p>'933 Patent at 1:23-57, 28:66-67, 29:3-5, 29:25-53, 409:33-410:4, 519:62-520:53, 533:28-536:30.</p>
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	<p>U.S. Patent App. No. 17/644,907 Prosecution History including but not limited to March 04, 2022 Non-Final Rejection; April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p> <p>WO 2000/003683 at 9-10</p> <p>WO 2011/066651 at [0056]</p> <p>WO 2010/054406 at 66</p> <p>WO 2010/054384 at 22-23 WO 2010/129709 at 58</p> <p>U.S. Publication No. 2004/0142025 at [0029]-[0030]</p> <p>U.S. Publication No. 2006/0051405 at [0067]-[0072]</p> <p>U.S. Publication No. 2007/0042031 at [0020]</p>	
<p>“an RNA”</p> <p>’979 Patent claim 11, 27</p>	<p>Proposed Construction</p> <p>Plain and ordinary meaning, which is “comprising ribonucleic acid”</p>	<p>Proposed Construction</p> <p>An RNA consisting of small interfering RNA (siRNA), micro</p>

	<p style="text-align: center;">Intrinsic Evidence</p> <p><i>See e.g.,</i></p> <p>'933 Patent at 1:17-19, 1:23-36, 1:37-46, 1:47-57, 1:61-62, 1:66-2:2, 25:10-15, 28:57-63, 28:64-67, 29:1-5, 29:11-13, 29:14-16, 29:17-24, 29:25-32, 29:33-43, 29:54-61, 36:39-44, 76:21-23, 334:63-67, 406:43-62, 407:44-47, 408:1-9, 409:7-10, 409:33-410:4, 410:27-53, 520:27-53, 533:24-534:27</p> <p>'933 Claims: 16 '979 Claims: 1, 11, 18, 27 '229 Claims: 20, 21, 35</p> <p>U.S. Patent App. No. 17/302,311 Prosecution History including but not limited to, August 10, 2021 Preliminary Amendment; August 10, 2021 Applicant Remarks; September 7 2021 Office Action; October 14, 2021 Response to Non-Final Office Action; October 13, 2021 Amendment to the Claims; October 14, 2021 Amendment and Remarks</p>	<p>RNA or microRNA (miRNA), antisense oligonucleotide, ribozyme, plasmid, immune stimulating nucleic acid, antisense, antagomir, antimir, microRNA mimic, supermir, U1 adaptor, aptamer, ribosomal RNA (rRNA), transfer RNA (tRNA), and/or small nuclear RNA (snRNA) and excluding mRNA.</p> <p style="text-align: center;">Intrinsic Evidence</p> <p>'933 Patent at 1:23-57, 28:66-67, 29:3-5, 29:25-53, 409:33-410:4, 519:62-520:53, 533:28-536:30.</p>
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	<p>Made in Amendment; November 16, 2021 Amendment After Allowance and Remarks</p> <p>U.S. Patent App. No. 17/644,907 Prosecution History including but not limited to March 04, 2022 Non-Final Rejection; April 18, 2022 Amendment After Allowance; April 18, 2022 Applicant Remarks</p> <p>WO 2000/003683 at 9-10</p> <p>WO 2011/066651 at [0056]</p> <p>WO 2010/054406 at 66</p> <p>WO 2010/054384 at 22-23 WO 2010/129709 at 58</p> <p>U.S. Publication No. 2004/0142025 at [0029]-[0030]</p> <p>U.S. Publication No. 2006/0051405 at [0067]-[0072]</p> <p>U.S. Publication No. 2007/0042031 at [0020]</p>	
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